



**UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
--------------------	-------------	-----------------------	---------------------

09/298,926 04/26/99 REMBOLD

H R.33554

QM01/0216

RONALD E GREIGG  
GRIEGG & GREIGG P.L.L.C.  
1423 POWHATAN STREET  
UNIT ONE  
ALEXANDRIA VA 22314

EXAMINER

MILLER, C

ART UNIT

PAPER NUMBER

3747

DATE MAILED:

02/16/01

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

**OFFICE ACTION SUMMARY**

☒ Responsive to communication(s) filed on 11/22/2000

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

**Disposition of Claims**

☒ Claim(s) 1-25 is/are pending in the application.

Of the above, claim(s) 26-22 and 25 is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-19 and 22-24 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

**Application Papers**

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

**Attachment(s)**

☐ Notice of Reference Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

**-- SEE OFFICE ACTION ON THE FOLLOWING PAGES --**

Art Unit: 3747

Claims 20-21 and 25 remain withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected species, the requirement having been traversed in Paper No. 9.

In particular, the flow resistance device (30d) is only shown as a part of Figure 1 which is the nonelected embodiment.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 10-11, 18-20 and 23-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Rembold et al ('885).

In particular, the applicant should see figure 5 of the reference.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12-13, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rembold.

Art Unit: 3747

In particular, injection time is always related to quantity so it would always be obvious to use this as an input to the increased fuel quantity desired. Engine speed is also always used to determine quantity. Finally, a variable resistor is commonly used to vary the speed of an electric motor.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rembold ('855) in view of Yoshihara.

Rembold applies as noted above and Yoshihara teaches using increased output from a low pressure pump at starting to purge vapor from the system. Since Rembold teaches a pump with overspeed capability this would have been obvious as well.

Because both systems are direct injection fuel systems with two levels of pump input it would have been obvious to use the higher capacity at starting to purge vapor from the Rembold system.

Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rembold as applied to claim 1 above, and further in view of Tuckey.

Art Unit: 3747

Tuckey teaches increasing fuel capacity from a pump when the fuel temperature goes up in order to compensate for density changes in the fuel.

It would have been obvious to vary to low pressure pump output using this input since there is always a drop in density at higher temperatures.

Applicant's arguments filed November 22, 2000 have been fully considered but they are not persuasive. In particular, the applicant should note that the first pump of Rembold (<sup>885</sup>2855) is operated by an electric motor (8) which is driven by the input of ECU (20). The specification appears to indicate that the speed of the pump is variable and can be driven according to the inputs from the sensed engine variables.


**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

Art Unit: 3747

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

C.MILLER:th  
January 30, 2001  
(703) 308-2653

  
**Carl S. Miller**  
**Primary Examiner**